

SCHISTOSOMA

<<-Pathogenesis & Clinical picture

progressive stages ε :stages

:(days ε-١) Stage of invasion-١

local dermatitis, irritation & popular rash*

:(weeks ε-٣) Stage of migration-٢

Schistosoma release their metabolic products*

Toxic and allergic manifestations) as: urticaria, fever, headache, muscle pain)

Lung symptoms): verminous pneumonitis , minute hemorrhage)

Cough& hemoptysis ->> clinical picture --

liver symptoms): enlarged& tender)

:(months ٢-١) Stage of egg deposition & extrusion-٣

(A*

Symptoms of toxicity(due to egg deposition)->>fever, urticaria, rigors, generalized

malaise, abdominal pain, liver tenderness

:B) Egg extrusion*

:eggs escape from veins to the perivascular tissues due to

pressure of the venules on the eggs•

venules<<بتشبهك في ال wall بتاع ال<<effect of the spine•

wall of venules<<الجنين ييفرز انزيمات تكسر ال<<damage & homorrhage•

N.B

:Fate of the eggs

penetration of the wall of venules & bladder \ intestine•

terminal hematuria freq. of micturition burning pain during micturition<<

dysentery with blood& mucous in stool<<

ε Trapped in the wall of bladder or intestine>>Stage•

(swapped by the blood stream forming embolus(Chronic case•

causes of embolic lesions<<

in lung: congestive heart failure*

in liver: portal hypertension, hepato splenomegaly, ascites, eosophageal*

varices

stage of tissue reaction to shell & miracideal antigens-ε

tissue reaction occurs around schistosomal eggs deposited in various tissues*

Antigens attract inflammatory cells•

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- Granuloma develops•
- Deposition of fibrous tissue•
- Damage of the affected organ then fibrosis•
- This takes months to years → Delayed-type hypersensitivity<<

:Diagnosis

- <<Clinically •
 - History of contact with infected water-١
 - Clinical picture according to stage of infection-٢
- <<Laboratory •
 - (Detection of S.haematobium eggs in urine: (test of viability*-١
 - OR
 - Detection of S.mansoni eggs in stool:>> kato thick faecal smear to assess the* intensity of infection
 - Rectal swab<<

S.mansoni egg	S.haematobium egg	
micron ١٥٠x٦٠	micron ١٤٠x٦٠	Size
oval, thin shell, lateral spine	oval, thin shell, terminal spine	shape
Translucent	Translucent	color
miracidium	miracidium	content

- (Serological tests: (immune diagnostic tests-٢
- Detection of anti-Shistosoma antibodies or antigens*
 - :in patients serum<<
 - (a)IHAT(indirect haemagglutination test
 - b)ELISA
 - (c)IFAT(indirect fluorescent antibody test
 - :Blood examination-٣
 - anemia due to*
 - (Egg extrusion(iron deficiency anemia<<
 - (Hypersplenism(haemolytic anemia<<
 - immune system الـبيخلى الـspleen يكون hyper active ،، هو دوره انه يكسر الـRBCs
 - Radiologically•

Endoscopy•
done in chronic cases to detect lesions and take biopsies*

Treatment: Praziquental

:Prevention & control

mass treatment<<
Health education<<
Snail control<<
Physical methods*
Biological methods*
Chemical methods*

N.B

:Symptoms are more intense in case of schistosoma Japonicum as
In schistosoma haema. & mansoni: the female lay eggs one by one*
but in case of S.Japonicum the female lays eggs in groups so the immune system
reaction will be stronger. Another reason is its great proximity to liver
(the patient suffers from(liver, chills, diarrhea, generalized lymphadenopathy<<

Katoyoma syndrome occurs mainly in S. japonicum infection

:It is called acute toxemic schistosomiasis
soluble egg antigens are released in blood stream →immune complex is<<
formed →circulate →deposit in the tissues →tissue damage

N.B

In case of eggs trapped in pulmonary capillaries →pulmonary hypertension →
enlarged right side of the heart →congestive heart failure →cor-pulmonale

